

**TITLE OF THE INVENTION**  
**SYNTHETIC HIV GAG GENES**

**ABSTRACT OF THE DISCLOSURE**

5           Synthetic DNA molecules encoding HIV *gag* and  
modifications of HIV *gag* are provided. The codons of the synthetic  
molecules are codons preferred by the projected host cell. The synthetic  
molecules may be used as a polynucleotide vaccine which provides  
effective immunoprophylaxis against HIV infection through stimulation  
10          of neutralizing antibody and cell-mediated immunity.